In the Claims:

1. (Original) A method of determining the dispensing efficiency of a dispensing point, comprising the steps of:

(a) determining an amount dispensed and the corresponding time period of a dispensing event at a dispensing point to formulate a time and volume pair measurement;

(b) repeating step (a) for a plurality of dispensing events to determine a plurality of time and volume pair measurements at said dispensing point for said plurality of dispensing events;

(c) determining a maximum dispensing efficiency curve from said plurality of volume and time pair measurements; and

(d) determining a maximum dispensing efficiency of said dispensing point by determining the slope of said maximum dispensing efficiency curve.

2. (Original) The method of claim 1 wherein said slope in said step (d) is an estimate of the maximum possible flow rate of said dispensing point.

3. (Original) The method of claim 1 wherein said step (c) of determining a maximum dispensing efficiency curve comprises the steps of:

(e) determining a linear curve that best matches the volume and time pair measurements exhibiting the lowest time period for amount dispensed in said plurality of volume and time pair measurements; and

(f) determining a slope of said linear curve.

4. (Original) The method of claim 3 wherein said step (e) of determining a linear curve is determined using a best of bins mathematical technique.

5. (Original) The method of claim 3 wherein said step (e) of determining a linear curve is determined using an iterative fit mathematical technique.

6. (Original) The method of claim 3 further comprising the step of determining the minimum dead time for said dispensing point by determining the time period at which said linear curve amount dispensed becomes zero.

7. (Original) The method of claim 1 wherein said volume and time pair measurements are comprised of a two-dimensional table in a memory where one dimension of said table is volume and another dimension of said table is time.

8. (Original) The method of claim 1 further comprising the steps of:

(e) comparing said maximum dispensing efficiency to a threshold value; and

(f) generating an error if said maximum dispensing efficiency is less than said threshold value.

9. (Original) The method of claim 8 wherein said step of generating an error further comprises generating an alarm.

10. (Original) The method of claim 9 wherein said step of generating an alarm further comprises sending an alarm message over an off-site communication link.

11. (Original) The method of claim 1 further comprising the step of determining a current volume and time pair measurement of said dispensing event at a dispensing point wherein said step (c) is performed using said plurality of volume and time pair measurements and said current volume and time pair measurements.

12. (Original) The method of claim 1 further comprising the steps of:

(e) comparing said maximum dispensing efficiency to a threshold value; and

(f) generating an error if said maximum dispensing efficiency is more than said threshold value.

13. (Original) The method of claim 1 further comprising the steps of:

(e) repeating steps (a) – (d) for a plurality of dispensing points to determine a maximum dispensing efficiency for each of said plurality of dispensing points;

(f) comparing one of said maximum dispensing efficiencies to each of the other of said maximum efficiencies; and

(g) generating an error if said one of said maximum efficiencies is less than said other of said maximum efficiencies.

14. (Original) The method of claim 13 wherein said step of generating an error further comprises generating an alarm.

15. (Original) The method of claim 14 wherein said step of generating an alarm further comprises sending an alarm message over an off-site communication link.

16. (Original) The method of claim 1 further comprising the steps of:

(e) repeating steps (a) – (d) for a plurality of dispensing points to determine a current maximum dispensing efficiency for said dispensing point for a different time span than said maximum dispensing efficiency for said dispensing point;

(f) comparing said current maximum dispensing efficiency to said maximum dispensing efficiency; and

(g) generating an error if said current maximum dispensing efficiency is different than said maximum dispensing efficiency by a defined threshold value.

17. (Original) The method of claim 16 wherein said step of generating an error further comprises generating an alarm.

18. (Original) The method of claim 17 wherein said step of generating an alarm further comprises sending an alarm message over an off-site communication link.

19. (Original) A flow rate monitoring system, comprising:

a fuel dispenser comprising a dispensing point and a meter that measures a volume of fuel dispensed at said dispensing point during a dispensing event wherein said fuel dispenser generates dispensing events; and

a control system coupled to said meter to receive data regarding said volume of fuel dispensed at said dispensing point and receive said dispensing events to determine a time over which said volume of fuel was dispensed to formulate a volume and time pair measurement for a dispensing event;

said control system adapted to:

determine a plurality of said volume and time pair measurements for a plurality of dispensing events at a dispensing point;

determine a maximum dispensing efficiency curve from said plurality of volume and time pair measurements; and

determine a maximum dispensing efficiency of said dispensing point by determining a slope of said maximum dispensing efficiency curve.

20. (Original) The system of claim 19 wherein said slope is an estimate of the maximum possible flow rate of said dispensing point.

21. (Original) The system of claim 19 wherein said control system determines said maximum dispensing efficiency curve by:

determining a linear curve that best matches the volume and time pair measurements exhibiting the lowest time for dispensed volume in said plurality of volume and time pair measurements; and

determining a slope of said linear curve.

22. (Original) The system of claim 21 wherein said control system uses a best of bins mathematical technique to determine said linear curve.

23. (Original) The system of claim 21 wherein said control system uses an iterative fit mathematical technique to determine said linear curve.

24. (Original) The system of claim 21 wherein said control system determines the minimum dead time for said dispensing point by determining the time period at which said linear curve dispensed volume becomes zero.

25. (Original) The system of claim 21 wherein said volume and time pair measurements are comprised of a two-dimensional table in a memory where one dimension of said table is volume and another dimension of said table is time.

26. (Original) The system of claim 19 wherein said control system is further adapted to compare said maximum dispensing efficiency to a threshold value; and generate an error if said maximum dispensing efficiency is less than said threshold value.

27. (Original) The system of claim 26 wherein said control system generates an alarm in response to generating said error.

28. (Original) The system of claim 27 wherein said control system generates said alarm by sending an alarm message over an off-site communication link.

29. (Original) The system of claim 19 wherein said control system compares said maximum dispensing efficiency to a threshold value; and generates an error if said maximum dispensing efficiency is more than said threshold value.

30. (Original) The system of claim 19 wherein said control system determines a current volume and time pair measurement of said dispensing event at said dispensing point and uses said current volume and time pair measurement and said plurality of volume and time pair measurements to determine said maximum dispensing efficiency.

31. (Original) The system of claim 19 wherein said control system:

determines a plurality of said maximum dispensing efficiency curves each for a plurality of dispensing points;

compares one of said maximum dispensing efficiencies to each of the other of said maximum dispensing efficiencies; and

generates an error if said one of said maximum dispensing efficiencies is less than said other of said maximum dispensing efficiencies.

32. (Original) The system of claim 31 wherein said control system generates an alarm in response to generating said error.

33. (Original) The system of claim 32 wherein said control system generates said alarm by sending an alarm message over an off-site communication link.

34. (Original) The system of claim 19 wherein said control system:

determines a current maximum dispensing efficiency for said dispensing point for a different time span than for said maximum dispensing efficiency for said dispensing point by:

determining a plurality of volume and time pair measurements for a plurality of dispensing events at a dispensing point;

determining a maximum dispensing efficiency curve from said plurality of volume and time pair measurements; and

determining a maximum dispensing efficiency of said dispensing point by determining the slope of said maximum dispensing efficiency curve.

compares said current maximum dispensing efficiency to said maximum dispensing efficiency; and

generates an error if said current maximum dispensing efficiency is different than said maximum dispensing efficiency by more than a defined threshold value.

35. (Original) The system of claim 34 wherein said step of generating an error further comprises generating an alarm.

36. (Original) The system of claim 35 wherein said step of generating an alarm further comprises sending an alarm message over an off-site communication link.

37. (Currently Amended) A method of determining the dispensing efficiency of a dispensing point, comprising the steps of:

(a) determining an amount dispensed and the corresponding time period of a dispensing event at a dispensing point to formulate a time and volume pair measurement;

(b) repeating step (a) for a plurality of dispensing events to determine a plurality of time and volume pair measurements at said dispensing point for said plurality of dispensing events; and

(c) determining a dispensing efficiency curve of said dispensing point from said plurality of volume and time pair measurements;

(d) determining the dispensing efficiency of said dispensing point by determining the slope of said dispensing efficiency curve; and

(e) determining the dead time of said dispensing point from said dispensing efficiency.

38. (Cancelled).

39. (Original) The method of claim 37, further comprising the step of determining the maximum flow rate of said dispensing point from said dispensing efficiency.

40. (Currently Amended) A flow rate monitoring system, comprising:

a fuel dispenser comprising a dispensing point and a meter that measures a volume of fuel dispensed at said dispensing point during a dispensing event wherein said fuel dispenser generates dispensing events; and

a control system coupled to said meter to receive data regarding said volume of fuel dispensed at said dispensing point and receive said dispensing events to determine a time over which said volume of fuel was dispensed to formulate a volume and time pair measurement for a dispensing event;

said control system adapted to:

determine a plurality of said volume and time pair measurements for a plurality of dispensing events at said dispensing point; and

determine a dispensing efficiency curve of said dispensing point from said plurality of volume and time pair measurements;

determine the dispensing efficiency of said dispensing point by determining the slope of said dispensing efficiency curve; and

determine the dead time of said dispensing point from said dispensing efficiency.

41. (Cancelled).

42. (Original) The system of claim 40, wherein said control system determines the maximum flow rate of said dispensing point from said dispensing efficiency.